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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/457,209	12/08/1999	BRADLEY CAIN	2204/186	7418

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EXAMINER
ZIA, SYED

ART UNIT	PAPER NUMBER
2155	

DATE MAILED: 06/30/2003   *12*

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

Office Action Summary	Application No. 09/457,209	Applicant(s) CAIN, BRADLEY
	Examiner Syed Zia	Art Unit 2155	

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>17 April 2003</u> .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-26</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-26</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)	4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5)☐ Notice of Informal Patent Application (PTO-152)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6)☐ Other: .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on April 14, 2003 has been entered.

Response to Amendment

Original application contained Claims 1-24. Applicant amended Claims 1-5, and 8-24.

Applicant added new claims 25, and 26. The amendment filed on March 19, 2003 have been

entered and made of record. Therefore, presently pending claims are 1-26.

Response to Arguments

Regarding Claim 1, 8, 15, and 22 applicants argued that admitted prior art (APA)

[Armstrong, U. S. patent 5,542047] does not disclose, "*periodically calculating a reliability*

factor", and "*varying a frequency for sending keep-alive messages to the neighbor based upon*

reliability factor" in a communication system where network node receive keep-alive messages

from its neighbors.

This is not found persuasive. APA teaches and describes system and method for node and

link status monitoring for distributed computer network, and distributing network monitoring

among each nodes such that monitor software in each node is responsible for providing status

information about node and its communications links. This is accomplished by dispatching a

circulating status table (CST) at calculated monitoring intervals from a node designated as a

dispatching node to other nodes that are on-line. The CST is circulated to each on-line node and

then returned to the dispatching node. At each node that receives the CST, selected status

information about such node is written into the CST and selected status information is read about

the other nodes.

As a result, APA does implement a system and method that involves communication

system where each network node receives keep-alive messages from its neighbors based upon a

reliability factor for communicating with a neighbor.

Applicants clearly have failed to explicitly identify specific claim limitations, which

would define a patentable distinction over prior arts.

Therefore, the examiner asserts that APA does teach or suggest the subject matter recited

in independent claims 1, 8, 15, and 22. Dependent claims 2-7, 9-14, 16-21, and 23-26 are also

rejected at least by virtue of their dependency on independent claims and by other reason set

forth in the this office action (Paper No. 12). Accordingly, rejections for claims 1-26 are

respectfully maintained.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Armstrong et al.

(U. S. Patent 5,542,047).

3. Regarding Claim 1 Armstrong teaches and describes a system and method that relates

generally to computer network systems, and more particularly relates to a distributed network

monitoring software system for monitoring the status of network nodes and links and

determining the condition of communications links using an adaptive procedure to identify

intermittent links, comprising:

- periodically calculating a reliability factor for communicating with a neighbor; and

varying a frequency for sending keep-alive messages to the neighbor based upon the reliability

factor (col. 2 line 63 to col. 3 line 48);

4.   Regarding Claim 8 Armstrong teaches and describes a device for sending keep-alive

message to a neighbor in a communication network, the device comprising:

        - reliability calculation logic operably coupled to periodically calculate a reliability factor

for communicating with the neighbor, and frequency variation logic responsive to the reliability

calculation logic and operably coupled to calculate a frequency for sending keep-alive messages

to the neighbor based upon the reliability factor (col. 2 line 63 to col. 3 line 48).

5.   Regarding Claim 15 Armstrong teaches and describes a program product comprising a

computer readable medium having embodied thereon a computer program for sending keep-alive

messages to a neighbor in a communication network, the computer program comprising:

        - reliability calculation logic operably coupled to periodical calculate a reliability factor

for communicating with the neighbor, and frequency variation logic responsive to the reliability

calculation logic and operably coupled to determine a frequency for sending keep-alive messages

to the neighbor based upon the reliability factor (col. 2 line 63 to col. 3 line 48).

6.   Regarding Claim 22 Armstrong teaches and describes plurality of interconnected devices

including a node and a neighbor in communication over a communication link, wherein the node

is operably coupled to send keep-alive messages to the neighbor, and wherein the node is

operably coupled to vary a frequency for sending keep-alive messages to the neighbor based

upon a periodically computed reliability factor for communicating with the neighbor over the

communication link (Fig. 1 and col. 2 line 9 to col. 3 line 48).

4.   Claims 2-6, 9-13, 16-20 and 23-24 are rejected applied as above in rejecting claims 1, 8,

15 and 22. Furthermore, Armstrong teaches and describes a system and method for managing of

network components, and in particular, to a network management method and system using

active monitoring and status reporting, wherein calculating the reliability factor for

communicating with the neighbor comprising:

        - determining a reliability for the neighbor, and calculating the reliability factor

based upon the reliability for the neighbor (col. 9 line 31 to col. 10 line 27 and col. 11 line 12 to

line 34);

        - measuring a reliability of a communication link to the neighbor, and calculating the

reliability factor based upon the reliability of the communication link to the neighbor (col. 10

line 29 to line 50 and col. 11 line 12 to line 34);

        - determining a reliability for the neighbor, measuring a reliability for a communication

link to the neighbor, assigning a relative weight to each of the reliability for the neighbor and the

reliability of the communication link to the neighbor, and calculating the reliability factor to be a

weighted average of the reliability for the neighbor and the reliability of the communication link

to the neighbor (col. 11 line 12 to line 34 and col. 2 line 63 to col. 3 line 48);

        - setting the frequency for sending keep-alive messages to the neighbor in inverse

proportion to the reliability factor, updating the reliability factor, and adjusting the frequency for

sending keep-alive messages to the neighbor based upon the updated reliability factor (col. 13

line 12 to line 35 and col. 14 line 2 to line 19);

        - the node is operably coupled to determine the reliability factor based upon a reliability

for the neighbor and a reliability for the communication link; and the node is operably coupled to

set the frequency for sending keep-alive messages to the neighbor in inverse proportion to the

reliability factor (Fig. 3 and col. 9 line 31 to col. 10 line 27).

5.   Claims 7, 14, and 21 are rejected applied as above in rejecting claims 6, 13, and 20.

Furthermore, Armstrong teaches and describes a polling mechanism which adjusted dynamically

based on the intermittent condition of nodes and communication links, comprising:

      - reducing the frequency for sending keep-alive messages to the neighbor, if the updated

reliability factor represents a reliability improvement for communicating with the neighbor; and

increasing the frequency for sending keep-alive messages to the neighbor, if the updated

reliability factor represents a reliability degradation for communicating with the neighbor (col.

14 line 2 to line 19).

6.   Claims 23, and 24 are rejected applied as above in rejecting claims 4, and 11.

Furthermore, Armstrong teaches and describes mechanism to calculate reliability factor based on

weighted measured reliability of the communication link, and weighted reliability of neighbor

i.e. reliability adjusted dynamically based on the intermittent condition of nodes and

communication links (Fig. 3 and col. 9 line 31 to col. 10 line 27, and col. 14 line 2 to line 19).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed Zia whose telephone number is 703-305-3881. The examiner can normally be reached on Monday - Friday 9:00 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 703-305-9648. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-746-7240.

sz
June 27, 2003

HOSAIN T. ALAM
PRIMARY EXAMINER